EVALUATION OF THE ACADIA NARCOTIC TREATMENT PROGRAM

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In 1999, due to the increased problems with addiction to opiate drugs, the Bangor community began consideration of starting a methadone maintenance program at Acadia Hospital. Because of concerns about opening an opiate treatment program and its impact on the community, the federal Center for Substance Abuse Treatment, in concert with the Maine Office of Substance Abuse, contracted for an evaluation of the impact and effectiveness of the Acadia Narcotic Treatment Program. This evaluation looks at the impact of the program on the clients and also its impact on the community. The impact on clients is measured by comparing characteristics and problems of clients at admission and follow-up to determine client progress. The impact on the community is measured by comparing crime statistics in Bangor before and after the program's opening.

The Acadia Narcotic Treatment Program began treating opiate addicts on June 14, 2001. As of September 17, 2002, the Acadia program had admitted 174 clients. A total of 33 clients have left the program for the following reasons: 14 completed treatment, four transferred to another program, four were administratively discharged, eight went to jail, and three left and were unable to be contacted.

Impact of the Treatment Program on Clients
Comparison of Admission and Discharge Data as of July 31, 2002

Client Demographics

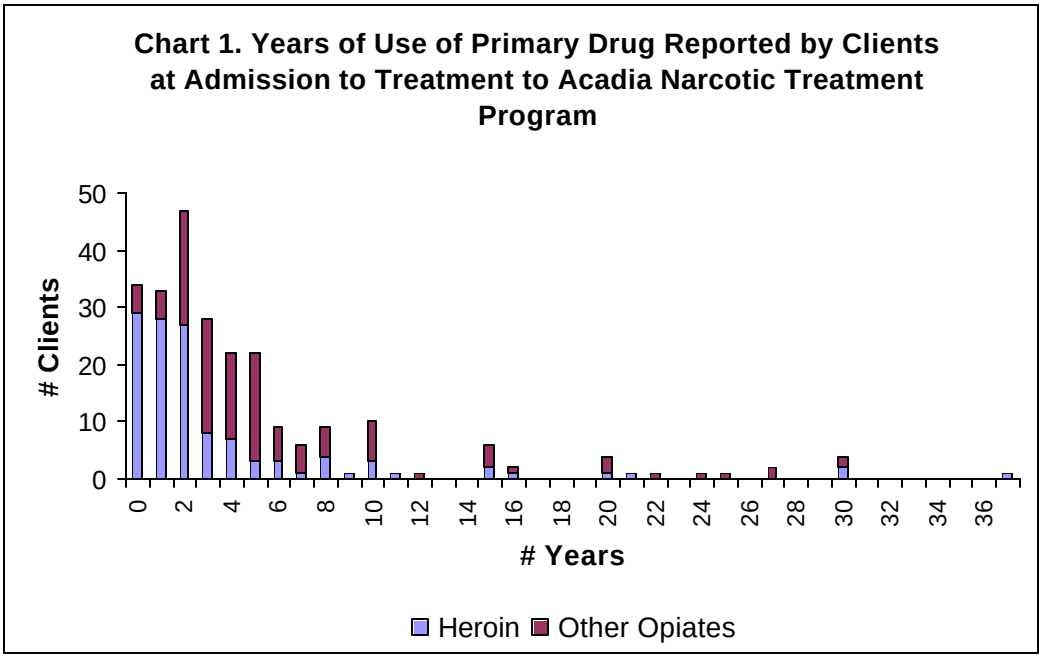
Table 1 shows the characteristics of the clients admitted to treatment as of July 31, 2002. Some 60 percent were male, 93 percent were Anglo, 3 percent were American Indian, and 1 percent were either African American or Asian-Pacific Islander or Hispanic, respectively. Mean age was 30.6 (SD 8.9, range 19.0-54).

Table 1. Characteristics of Clients at Admission to Acadia Narcotic Treatment Program as of July 31, 2002

	Male	*Female*	*Total*
White	78	48	126
Black	0	2	2
American Indian	0	4	4
Asian/Pacific Islander	1	1	2
Hispanic	2	0	2
Total	81	55	136

Seventy-three percent of the clients had a primary problem with other opiates such as oxycodone (OxyContin and Percocet), hydrocodone (Vicodin), or hydromorphone (Dilaudid). Some 20 percent had a primary problem with heroin, and 5 percent had a problem with both alcohol and drugs. Chart 1 shows that many of the clients with

problems with other opiates such as OxyContin began use between two and five years ago, while another cohort of clients began heroin use more recently, which reflects the decreased availability of OxyContin and the shift to the use of heroin. Chart 1 also shows that not all of the clients entering treatment have recently become addicted; some have been using heroin and other opiates for a number of years.



Length of Residence in Bangor

Contrary to early concerns that the opening of an opiate treatment program would encourage addicts to move into the area, most of the clients in the Acadia Narcotic Treatment Program lived in Bangor prior to the opening of the program. Clients reported that they had lived in Bangor a mean average of 3.6 years (SD .58, range 0-41 years). A total of 11 clients relocated into the Bangor area to participate in the program. Of the 11, seven moved from the Machias area and four, who had family in Bangor but were living out of the Bangor area in order to receive treatment, returned home once the program opened.

Previous Treatment History

Clients entering treatment at Acadia had sought help for their addiction previously. At admission, the clients were asked how many times they had been treated in detoxification, halfway houses, inpatient or outpatient counseling, or had attended three or more meetings of Alcoholics Anonymous or Narcotics Anonymous within a one-month period. Only 15 percent said they had not participated in one of these programs before. They reported they had been in drug treatment a modal average of one time (SD 4.55, range 0-40); the modal average for alcohol treatment was 0 (SD 1.56, range 0-8).

Comparison of Clients at Admission and Follow-up

The Addiction Severity Index (ASI) instrument,[1] which was created by Delta Metrics and supported by the Center for Substance Abuse Treatment and the Office of National Drug Control Policy, was used to collect data on Acadia clients. The ASI collects information on medical history, including lifetime hospitalizations and chronic problems; employment and support measures including education and training, skills, longest full-time job, and recent employment pattern. The drug and alcohol questions include abuse history, abstinence history, and history of overdoses and delirium tremens. Legal questions include major charges, convictions, current charges, and current criminal involvement. Family and social questions include questions about living arrangements, substance use problems among others in the household, friends and free time, relationships with family members, and need for counseling to improve family relationships. Psychiatric status includes history of psychological problems and history and current need for mental health services. From these questions, a composite score is created from combinations of items in each problem area, and the composite score at admission can be compared to the composite score at follow-up to show change during time in treatment. A score of 1.0 reflects the maximum number of problems and a score of 0.0 means there were no problems reported.

The ASI data on each client at admission was compared with that client's follow-up ASI and changes in status were tested for statistical significance.

As of July 31, 2002, a total of 83 clients had received follow-up interviews after admission, and the mean length of time between admission and the latest follow-up interview was 280 days (SD 82.0, range 77-418).

Length of time in treatment is an important predictor of outcomes (Ball and Ross, 1991; Hubbard et al., 1989; Simpson and Sells, 1982). A minimum of three to six months of treatment is usually necessary before there is evidence of behavioral progress toward recovery (De Leon and Schwartz, 1984; Simpson, 1981). The Drug Abuse Treatment Outcome Studies (DATOS) project, which was a very large federally-funded treatment evaluation study, collected data from 96 treatment programs in 11 large U.S. cities. This major study found that clients with stays of 12 months or more in outpatient methadone treatment had significantly better follow-up outcomes. Clients who remained in treatment for a year or longer were four times less likely than early dropouts (i.e., treated under three months) to use heroin weekly during the one-year follow-up (Simpson, Joe, and Brown, 1997). The data presented in this report confirm this finding. It is noteworthy that the clients in the Acadia program had been in treatment an average of over nine months at the time of follow-up.

Drug and Alcohol Use

Admission and follow-up records were matched for clients in this evaluation. The mean ASI composite score for drug use problems at admission was 0.30; the mean score at follow-up was 0.196, which was a statistically significant decrease ($p<.0001$). A total of

32 admissions were transfers from the Discovery House program in Winslow, and since they had been in treatment, their ASI scores were lower. When only new treatment clients are considered, the ASI composite score at admission was 0.327 and at follow-up it was 0.184, which is also a significant decrease ($p<.0001$).

Recently, Delta Metrics piloted a new technique to classify clients substance abuse severity using ASI composite scores. This technique involved the use of normative data from samples of outpatient substance abusers and residential substance abusers. The data on outpatient (N= 2,707 and residential (N =5,256) substance abuse clients were derived from the Drug Evaluation Network System (DENS) using either "mild/moderate" (< or = to .24), or "severe" (> .24).[3] These measures of severity apply to all modalities, not just methadone, and based on this caveat, the average drug severity of Acadia clients can be said to have moved from "severe" to "mild-moderate."

The composite score for alcohol use problems among all admissions was 0.044 at admission and 0.048 at follow-up. For new clients who had not transferred from the Winslow program to this program, the alcohol composite score was .056 at admission and .057 at follow-up. Twenty-six of the clients reported having drunk alcohol in the month prior to admission; 14 of them reported drinking in the month prior to follow-up. Fifteen reported drinking to the point of intoxication at admission and seven reported this same pattern at follow-up. Heavy alcohol use can be a problem with clients in methadone treatment. The DATOS study found that the percent of clients reporting heavy alcohol use increased from 15 percent before treatment to 16 percent a year after treatment (Hubbard, Craddock, Flynn, Anderson, and Ethridge, 1997). It is recommended that the Narcotic Treatment Program continue to use the ASI data to identify and treat those clients who report heavy alcohol use, especially since methadone and heavy alcohol use in combination can result in respiratory depression.

Table 2. Use of Different Substances in Past 30 Days as Reported by New Treatment Admissions Through July 31, 2002

	# Days Used in Past 30 Days	
	Admission	*Follow-up*
Heroin	6.4	2.7*
Other Opiates	15.2	5.1*
Barbiturates	0.7	0.4
Sedatives/Tranquilizers	7.1	4.2*
Cocaine	2.6	1.9
Amphetamines	0.4	0.0*
Marijuana	8.0	4.0*
Any Alcohol	2.2	1.3
Alcohol to Intoxication	1.5	1.0

*p=.05

Table 2 shows the use of various substances as reported by the clients at admission and follow-up; data on clients who transferred in from other treatment programs were

excluded from these calculations. The decrease in the number of days on which heroin, other opiates, sedatives/tranquilizers, amphetamines, and marijuana were used was significant, and with additional time in treatment, there should be further decreases in the use of all drugs and in drinking to intoxication.

In addition to the decrease in number of days that these substances were used, the number of clients using them also decreased. Five people reported having used barbiturates in the month prior to entering treatment; at follow-up that number had dropped to two. The number using sedatives and tranquilizers dropped from 47 to 15. The number using cocaine dropped from 38 to 11, six people stopped using amphetamines, and the number using marijuana dropped from 51 to 17.

Other Problem Indices

Table 3 shows the other ASI problem indices at admission and follow-up. The improvements for psychological and employment/support problems were statistically significant. The number of days that the clients were paid for working in the past 30 days increased from 8.4 to 10.8 days. The number of clients employed full time increased from 26 to 30, the number of part-time employees working regular hours decreased from seven to six, the number of part-time employees working irregular hours increased from 19 to 21, the number who said at admission that they were retired or disabled decreased from nine to six at follow-up, and the number unemployed dropped from 21 to 17. The improvement in employment is contrary the DATOS study, which found that the change in clients not working full time before and after treatment was not significant (85 percent v. 82 percent). For the Acadia program, the percent not working full time dropped from 69 percent to 65 percent. Given the economic conditions in the Bangor area, this improvement in employment status is noteworthy.

The number of days of illegal activity in the past 30 decreased from 4.7 at admission to 3.0 at follow-up. At admission, 24 percent of the clients reported having committed illegal activities in the past month; at follow-up, 13 percent had, which is statistically significant. The DATOS study found that the 29 percent of clients had committed an illegal activity in the month before treatment and the drop to 14 percent at one-year follow-up was statistically significant.

Table 3. Other ASI Problem Indices

	Admission	*Follow-up*
Family/Social Problems	0.195	0.205
Medical Problems	0.307	0.287
Psychological Problems	0.403	0.290*
Employment/Support Problems	0.552	0.448*
Legal Problems	0.134	0.100

*p<.05

The average ASI score for medical problems at admission decreased between admission and follow-up, but the change was not significant, while the family/social problems average score increased very slightly. The ASI medical status index includes questions about chronic medical problems, taking a prescribed medication on a regular basis for a physical problem, experiencing medical problems, and need for treatment for these problems. The slight decrease in medical problems is not surprising, because as addicts move from a life centered totally on obtaining and using drugs and begin to get their addiction under control, they will start to recognize health problems which had been ignored or unfelt while they were on heroin or other opiates.

Similarly, as clients become more connected with their families and peers, they will need to deal with issues which had previously been ignored. The ASI family/social relationship questions include whether or not the client is living with someone who has an alcohol or drug problem, number of days bothered by social or family problems, and importance of getting counseling for family and social problems. These problems may increase as the addict moves back into the family. But with time in treatment, these problems should be expected to decrease, particularly as counseling is provided for family and social problems.

Impact of the Treatment Program on the Community

One of the major concerns of the community was whether or not the program would cause an increase in crime. The clients in this program reported that during the month before their admission, they spent an average of $3,900 each on their opiate habits. It would be safe to assume that some of this money came from illegal activities.

The City of Bangor police data in Table 4 shows there has been a decrease in the number of crimes reported since the program started in 2001.

Table 4. City of Bangor Police Department Responses to Calls Through June 30, 2002

City Wide	***1998***	***1999***	***2000***	***2001***	***1/2 2002***
Assault*	457	466	473	410	181
Burglary	285	248	333	244	85
Criminal Mischief	704	692	641	742	340
Disorderly Conduct	1303	1276	1070	911	402
Harassment	665	699	656	646	282
Suspicious Person	1446	1555	1412	1564	677
Theft**	1702	1388	1483	1631	636
Trespass	136	178	137	124	64
Neighborhood	***1998***	***1999***	***2000***	***2001***	***1/2 2002***
Assault*	6	3	4	4	4
Burglary	3	4	6	2	0
Criminal Mischief	10	9	7	9	3
Disorderly Conduct	4	5	1	2	0
Harassment	16	7	10	7	0

Suspicious Person	10	5	7	8	5
Theft**	31	20	20	21	7
Trespass	0	1	1	1	0

Bangor Mall	***1998***	***1999***	***2000***	***2001***	***1/2 2002***
Assault*	8	7	7	1	3
Burglary	8	2	2	9	2
Criminal Mischief	17	23	15	26	14
Disorderly Conduct	4	4	2	3	1
Harassment	11	15	6	9	2
Suspicious Person	14	24	11	16	6
Theft**	145	235	192	227	95
Trespass	1	2	1	3	1

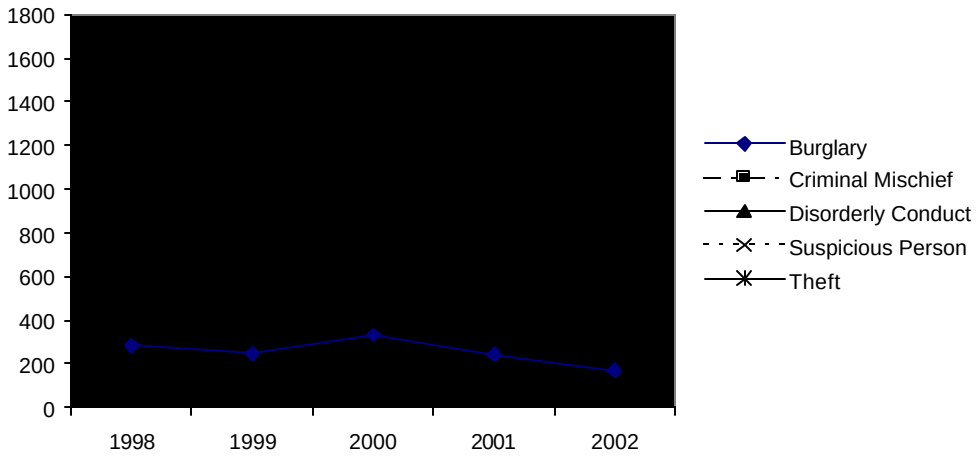
Acadia Hospital	***1998***	***1999***	***2000***	***2001***	***1/2 2002***
Assault*	0	0	0	1	0
Burglary	0	0	0	0	0
Criminal Mischief	0	0	0	0	0
Disorderly Conduct	1	1	3	0	0
Harassment	0	2	1	1	0
Suspicious Person	2	0	0	3	0
Theft**	1	0	1	0	0
Trespass	0	1	0	0	0

*Assault does not include domestic assaults

**Theft includes burglary to motor vehicle and theft of vehicle

Chart 2 shows the decrease citywide in some of these crimes. In this chart, the number of crimes reported through the first half of 2002 is doubled to provide an estimate for the entire year of 2002.

Chart 2. City Wide Police Calls: 1998-2002 (est)



The Bangor Police Department reports that OxyContin is less available now and that the price of an 80 mg. tablet that sold for $80 several years ago is now selling for up to $120, and the price of a bag of heroin has increased from $25-$35 to $40-$50. As the cost of opiate drugs increases, there will be increased crime to support more expensive habits.

Summary

Analysis of the Addiction Severity Index data collected from each client at admission and follow-up has shown that most of the clients entering the Acadia Narcotic Treatment Program have been Bangor residents, most had been in treatment previously, they have stayed in the Acadia program over nine months, and the decrease in their drug and alcohol problem index scores matched between admission and follow-up was statistically significant. Likewise, their use of other drugs and alcohol had decreased, as had their psychological, employment, legal, and medical problems. Consistent with other studies, some clients still report problems with heavy drinking, and clients still need additional counseling for family and social problems.

The Acadia Narcotic Treatment Program has not resulted in people relocating to Bangor to enter the treatment program, and while a cause and effect relationship between the program and the crime rate cannot be established, the number of calls to the Bangor City Police has decreased for criminal activities associated with drug abuse, such as theft and burglary. However, all available indicators point to an increasing demand for treatment. As law enforcement efforts have resulted in the decreased availability of OxyContin, individuals who are addicted have not given up their drug use, but have instead shifted to the use of heroin. Chart 1 clearly shows this shift to heroin use, and there are no indications that this trend will decrease. In July, 2002, Acadia Hospital received 1,761 calls inquiring about treatment services, and one-fourth of the calls were requesting treatment for opiate addiction. This means that over 400 people called in July about opiate treatment, at the same time that the cost of drugs (and drug habits) are increasing.

From a statistical perspective, the Acadia Narcotic Treatment Program appears to be a success both in terms of improvement by clients and in terms of impact on the community. Part of this success is due to the cooperation and support of the Community Advisory Group on Opioid Treatment Program. Based on the success of the program and the increasing demand for treatment, is recommended that the program's capacity to provide treatment be expanded.

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[2] The ASI document can be viewed at http://www.tresearch.org/Assessment%20Inst/ASI%205b.pdf

[3] Email from Martin Arocena to Jane Maxwell, September 3, 2002.